

## CLAIMS

1. A method of diagnosing colon cancer in an individual comprising:

(a) obtaining a serum sample from said individual; and

(b) detecting the presence of TIMP1 in said sample, wherein the presence of

5 Reg1 $\alpha$  in said sample is indicative of colon cancer in said individual.

2. The method of claim 1, wherein said step of detecting comprises:

(a) contacting said serum sample with a polypeptide ligand which is capable of binding to TIMP1 under conditions which permit said polypeptide ligand to bind to TIMP1; and

10 (b) detecting the binding of said polypeptide ligand to TIMP1, wherein detection of binding is indicative of the presence of TIMP1 in said sample.

3. The method of claim 2, wherein said polypeptide ligand is an antibody.

4. The method of claim 2, wherein said polypeptide ligand comprises a detectable label.

5. The method of claim 1, wherein said individual is a human.

15 6. A method of diagnosing colon cancer in an individual comprising:

(a) obtaining a serum sample from said individual; and

(b) detecting the presence of TIMP1 and at least one other colon cancer specific marker in said sample, wherein the presence of TIMP1 and said at least one other colon cancer-specific marker is indicative of colon cancer in said individual.

20 7. The method of claim 6, wherein said colon cancer-specific marker is selected from the group consisting of the nucleic acid molecules of SEQ ID Nos 1, 3, 5-71, the polypeptide molecules of SEQ ID Nos 2, 4, 72-138, CA 19-9, CA 72-4, TF, sTn, Tn, CA 50, CA 549, CA 242, LASA, and Du-PAN 1 - 5.

8. The method of claim 6, wherein said step of detecting comprises:

(a) contacting said serum sample with a first polypeptide ligand which is capable of binding to TIMP1 and a second polypeptide ligand which is capable of binding to said colon cancer-specific marker, under conditions which permit said first and second polypeptide ligands to bind to TIMP1 and said colon cancer-specific marker, respectively; and

5 (b) detecting the binding of said first polypeptide ligand to TIMP1 and said second polypeptide ligand to said colon cancer-specific marker, wherein detection of binding is indicative of the presence of TIMP1 and said colon cancer-specific marker in said sample.

9. The method of claim 8, wherein said first and second polypeptide ligand are each an antibody.

10 10. The method of claim 8, wherein said first and second polypeptide ligand comprises a detectable label.

11. The method of claim 6, wherein said individual is a human.

12. A method of diagnosing colon cancer in an individual comprising:

(a) obtaining a serum sample from an individual; and

15 (b) detecting the presence of a nucleic acid molecule which encodes TIMP1 in said sample, wherein the presence of TIMP1 of said nucleic acid molecule in said sample is indicative of colon cancer in said individual.

13. A method of diagnosing colon cancer in an individual comprising:

(a) obtaining a serum sample from an individual; and

20 (b) detecting the presence of a nucleic acid molecule which encodes TIMP1 and at least one other nucleic acid molecule which encodes at least one other colon cancer-specific marker in said sample, wherein the presence of said nucleic acid sequence encoding TIMP1 and said nucleic acid sequence encoding said at least one other colon cancer-specific marker is indicative of colon cancer in said individual.

25 14. The method of claim 13, wherein said colon cancer specific marker is selected from the group consisting of SEQ ID Nos 1, 3, 5-71, the polypeptide molecules of SEQ ID Nos 2,

4, 72-138, CA 19-9, CA 72-4, TF, sTn, Tn, CA 50, CA 549, CA 242, LASA, and Du-PAN 1 - 5.

15. A method of diagnosing colon cancer in an individual comprising:

(a) obtaining a serum sample from said individual; and

5 (b) detecting the presence of Reg1 $\alpha$  in said sample, wherein the presence of Reg1 $\alpha$  in said sample is indicative of colon cancer in said individual.

16. The method of claim 15, wherein said step of detecting comprises:

(a) contacting said serum sample with a polypeptide ligand which is capable of binding to Reg1 $\alpha$  under conditions which permit said polypeptide ligand to bind to Reg1 $\alpha$ ;

10 and

(b) detecting the binding of said polypeptide ligand to Reg1 $\alpha$ , wherein detection of binding is indicative of the presence of Reg1 $\alpha$  in said sample.

17. The method of claim 16, wherein said polypeptide ligand is an antibody.

18. The method of claim 16, wherein said polypeptide ligand comprises a detectable label.

15 19. The method of claim 15, wherein said individual is a human.

20. A method of diagnosing colon cancer in an individual comprising:

(a) obtaining a serum sample from said individual; and

(b) detecting the presence of Reg1 $\alpha$  and at least one other colon cancer specific marker in said sample, wherein the presence of Reg1 $\alpha$  and said at least one other colon

20 cancer-specific marker is indicative of colon cancer in said individual.

21. The method of claim 20, wherein said colon cancer-specific marker is selected from the group consisting of the nucleic acid molecules of SEQ ID Nos 1, 3, 5-71, the polypeptide molecules of SEQ ID Nos 2, 4, 72-138, CA 19-9, CA 72-4, TF, sTn, Tn, CA 50, CA 549, CA 242, LASA, and Du-PAN 1 - 5.

25 22. The method of claim 20, wherein said step of detecting comprises:

(a) contacting said serum sample with a first polypeptide ligand which is capable of binding to Reg1 $\alpha$  and a second polypeptide ligand which is capable of binding to said colon cancer-specific marker, under conditions which permit said first and second polypeptide ligands to bind to Reg1 $\alpha$  and said colon cancer-specific marker, respectively; and

5 (b) detecting the binding of said first polypeptide ligand to Reg1 $\alpha$  and said second polypeptide ligand to said colon cancer-specific marker, wherein detection of binding is indicative of the presence of Reg1 $\alpha$  and said colon cancer-specific marker in said sample.

23. The method of claim 22, wherein said first and second polypeptide ligand are each an antibody.

10 24. The method of claim 22, wherein said first and second polypeptide ligand comprises a detectable label.

25. The method of claim 20, wherein said individual is a human.

26. A method of diagnosing colon cancer in an individual comprising:

(a) obtaining a serum sample from an individual; and

15 (b) detecting the presence of a nucleic acid molecule which encodes Reg1 $\alpha$  in said sample, wherein the presence of Reg1 $\alpha$  of said nucleic acid molecule in said sample is indicative of colon cancer in said individual.

27. A method of diagnosing colon cancer in an individual comprising:

(a) obtaining a serum sample from an individual; and

20 (b) detecting the presence of a nucleic acid molecule which encodes Reg1 $\alpha$  and at least one other nucleic acid molecule which encodes at least one other colon cancer-specific marker in said sample, wherein the presence of said nucleic acid sequence encoding Reg1 $\alpha$  and said nucleic acid sequence encoding said at least one other colon cancer-specific marker is indicative of colon cancer in said individual.

25 28. The method of claim 27, wherein said colon cancer specific marker is selected from the group consisting of SEQ ID Nos 1, 3, 5-71, the polypeptide molecules of SEQ ID Nos 2,

4, 72-138, CA 19-9, CA 72-4, TF, sTn, Tn, CA 50, CA 549, CA 242, LASA, and Du-PAN 1 - 5.